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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/662,561

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Michael J. Roche

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EXAMINER

RUTHKOSKY, MARK

ART UNIT

PAPER NUMBER

1795

MAIL DATE

DELIVERY MODE

07/03/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/662,561	Applicant(s) ROCKE ET AL.	
	Examiner Mark Ruthkosky	Art Unit 1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 May 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3,7,8,10-12 and 30-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3,7,8,10-12 and 30-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>5/1/2008</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 5/1/2008 has been entered.

Claim Rejections - 35 USC § 112

The rejection of claims 1-3, 7-8, 10-12 and 30-33 under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement and written description requirement has been overcome by applicant's amendment to the claims.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 7-8, 10-12 and 30-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukazu et al. (US 2002/0011327) OR Gottmann al. (US 2003/0157386) in view of Thomas et al. (US 5,752,011.)

The instant claims are to an apparatus comprising a fuel cell; a microprocessor; a cooling system to cool the fuel cell and the microprocessor; the cooling system including a fluid medium to remove heat from the fuel cell and the microprocessor; a temperature sensor to sense a temperature of the fuel cell; and a power management control block to control an operating frequency of the microprocessor in response to the temperature.

The claims are to an apparatus, which is a product. Language that suggests or makes optional, but does not limit the claims to a particular structure does not limit the scope of the claims or claim limitation. MPEP 2106c and 2111.04. A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. When the prior art structure is capable of performing the intended use, it meets the claim. These limitations are given weight with regard to structure, but not with regard to function.

Fukazu et al. (US 2002/0011327) teaches an apparatus comprising a fuel cell; a microprocessor; and a cooling system to cool the fuel cell and the microprocessor; wherein the cooling system includes a fluid medium to remove heat from the fuel cell and the microprocessor (see paragraphs (0025-29, 33, 57, figures 1-3, and claims 1-6.) The cooling system includes water that goes through a phase change to a vapor at 100 C (p. 54.) Condensers are noted (p. 29.) A power control unit is noted (p. 29, 57-60.) The unit processes information and determines allocations of electrical power for the fuel cell and other electronic devices. With regard to claim 30, the reference does not specifically teach an antenna, however, the circuit is connected to a number of metal members, including cooling fins, which will inherently function as an antenna. The microprocessor and control units constitute a means for reducing the clock

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frequency of the microprocessor, OR a voltage provided to the integrated circuit, in response to the temperature. Although the reference does not disclose the means for this purpose, the claims are to a product. The intended use limitation does not result in a structural difference between the claimed invention and the prior art.

Gottmann al. (US 2003/0157386) teaches an apparatus comprising a fuel cell; a microprocessor; and a cooling system to cool the fuel cell and the microprocessor; wherein the cooling system includes a fluid medium to remove heat from the fuel cell and the microprocessor (see paragraphs (0039-40, 71-76, 78-82, figure 3, and claims 1-61.) The cooling system includes water that goes through a phase change to a vapor at 100 C and lithium bromide (p. 76.) Condensers are noted. A power control unit is noted (p. 29, 57-60.) The unit processes information and determines allocations of electrical power for the fuel cell and other electronic devices. The fuel cell may be used in a computer (77-78.) With regard to claim 30, the reference does not specifically teach an antenna, however, the circuit is connected to a number of metal members, including cooling fins, which will inherently function as an antenna. The microprocessor and control units constitute a means for reducing the clock frequency of the microprocessor, OR a voltage provided to the integrated circuit, in response to the temperature. Although the reference does not disclose the means for this purpose, the claims are to a product. The intended use limitation does not result in a structural difference between the claimed invention and the prior art.

The Fukazu et al. (US 2002/0011327) and Gottmann al. (US 2003/0157386) references do not teach an apparatus, as claimed, that includes a temperature sensor. The references do disclose performing functions in response to measured temperatures. Thomas et al. (US

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5,752,011), however, teaches a system that includes a controller that controls a processors clock frequency and activity of the processor in accordance with the processor's temperature (abstract, claims.) The controller is connected to a temperature sensor and a cooling fan (see col. 8, lines 20-end, figures 1-7, 9 and the corresponding text, and claims 1-32.) The system includes a controller that changes that state of operation in response to the temperature sensed. The pump and cooling fan may be adjusted in response to temperature changes (col. 9, lines 20-end.) A load control means and a processor are noted.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include controller system of Thomas et al. in the inventions of Fukazu and Gottmann, in order to maintain thermal control of the fuel cell system and monitor/adjust the system at various states of operation as taught in Thomas. Further, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a temperature sensor as taught by Thomas, in the microprocessor in order to monitor the temperature of the microprocessor and adjust the coolant flow or microprocessor use and maintain safe operating temperatures. The artesian would have found the claimed invention to be obvious in light of the teachings of the references.

Response to Arguments

Applicant's arguments with respect to the amended claims have been considered but are moot in view of the new ground(s) of rejection.

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The rejection under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement and written description requirement has been overcome by applicant's amendment to the claims.

The Thomas reference has been cited in the new rejection of record to address the claimed features of applicant's amendment.

Examiner Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark Ruthkosky whose telephone number is 571-272-1291. The examiner can normally be reached on FLEX schedule (generally, Monday-Thursday from 9:00-6:30.) If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached at 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free.)

/Mark Ruthkosky/

Primary Examiner, Art Unit 1795